JPRS 78388

26 June 1981

USSR Report

ECONOMIC AFFAIRS

No. 969

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

JPRS 78388

26 June 1981

USSR REPORT

ECONOMIC AFFAIRS

No. 969

CONTENTS

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

Comparing U.S., USSR Economic Indicators
(L. Tsyrlin; VESTNIK STATISTIKI, Apr 81) 1

PLANNING AND PLAN IMPLEMENTATION

Gosplan Officials Discuss Plan Growth Rates
(Ye. Ivanov, A. Balashova; PLANOVOYE KHOZYAYSTVO, Apr 81) 11

RESOURCE UTILIZATION AND SUPPLY

Planners Stress Resource Conservation
(V. I. Pavlov, A. N. Spektor; EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO), Apr 81) 21

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

COMPARING U.S., USSR ECONOMIC INDICATORS

Moscow VESTNIK STATISTIKI in Russian No 4, Apr 81 pp 32-40

[Article by L. Tsyrlin: "On the Question of Comparing Statistical Indicators in the Economies of the USSR and USA"]

[Text] The increased international socialist division of labor, successes attained in the implementation of the Comprehensive Program of Socialist Economic Integration of CEMA Member Nations, and the expansion of the volume of foreign economic relations of socialist countries with the industrially developed capitalist and developing countries necessitate statistical materials characterizing the economic and cultural development of peoples in various countries.

The basic statistical indicators of economic and cultural development of the USSR are comparable with corresponding indicators of other CEMA member nations because they are calculated on the basis of the same methodology owing to the joint effort of the central statistical agencies of CEMA member nations within the framework of the CEMA.

Now that we have entered the decisive phase of the economic competition between socialist and capitalist countries, the continuous improvement of the methodology for comparing the basic statistical indicators of development of the economy of the USSR with similar indicators of capitalist countries and especially the USA becomes particularly important. However, in comparing the statistical indicators of the economy and culture of the USSR with the corresponding statistical indicators of capitalist countries, it is necessary to consider features that are unique to the statistics of individual capitalist countries and elements of incomparability even when comparing identical indicators. Therefore, methodological questions associated with the international comparison of statistical indicators must constantly be studied in depth from all aspects. It is also necessary to take into account the fact that for all manner of reasons the statistics of individual countries frequently modify the methodology used in the calculation of statistical data.

First of all, the organization of statistics in the USSR and other CEMA member nations is radically different from the organization of statistics in the capitalist countries. In the USSR and in other CEMA countries, the methodological base of statistics is Marxist-Leninist doctrine and the basic organizational principle is the centralized collection and processing of data on the entire national economy; data are for the most part taken from the reports of enterprises and institutions.

State statistical agencies prepare the materials required for the preparation of state plans for the economic and social development of the nation and monitor the execution of these plans. In accordance with the demands of planned management of the national economy, USSR statistical organs are responsible for gathering information accurately describing all aspects of the country's social and economic life.

In the capitalist countries, capitalist companies and concerns, business statistics firms, stock market, banking and other private organizations have complete control of very important aspects of current statistics. In the USA, for example, a considerable percentage of the official statistics is taken from the records of private companies. Approximately one-half of all data published in SURVEY OF CURRENT BUSINESS -- the principal official U. S. monthly journal of business statistics -- is supplied by private organizations. Even such important statistical data as the production of steel, metalworking equipment, motor vehicles, and electric power in the USA are gathered and published by private organizations rather than government statistical agencies. Data published by private organizations usually characterize the activity of private enterprises and are primarily intended to be used in their interest.

In accordance with the methodology that was developed, the USSR Central Statistical Administration compares statistical indicators of the USSR and capitalist countries characterizing national income, the gross social product, capital investments in the national economy, fixed capital, the volume of industrial output, the volume of agricultural output, labor productivity, and all indicators of levels of education, culture and science. When the methods used to calculate statistical indicators in the USSR and in capitalist countries differed, appropriate adjustments were made.

The comparison of the volume of industrial output and the branch structure of Soviet and U. S. industry acquires particular importance today. However, in the process of comparing these key indicators, it becomes necessary to resolve very complex methodological problems. Here are some of them.

When comparing the volume of Soviet-U.S. industrial output on the basis of the value of gross output, it must above all be considered that U. S. surveys (censuses) of manufactures publish data on the value of shipments rather than on gross output as in Soviet statistics. The value of shipments is the actual value charged for a product (minus discounts, freight and indirect taxes). This sum does not include changes in inventories and in work in progress. Thus the U. S. 'value of shipments' is roughly equivalent to 'commodity output' in Soviet statistics.

Work in progress in the USA is usually 1-2 percent of the value of shipments. Therefore, in comparisons of industrial output of the USSR and the USA, the value of gross output has been used for the USSR while the value of shipments (adjusted to include the value of work in progress) has been used for the USA.

When U. S. statistics (unlike Soviet statistics) refer to industry, they usually mean the manufacturing industry. U. S. statistics treat the mining industry, the production of electric energy at electric utilities (for public use), the production of thermal energy, and the production of manufactured gas separately.

In the process of comparing Soviet-U. S. industrial output in accordance with the methodology and classification employed in Soviet statistics, it is essential that these distinctions be eliminated. Consequently, it is necessary to add to the value of the product of the U. S. manufacturing industry the production of electric energy at electric utilities for public use (over 96 percent of all electric energy produced in 1979), thermal energy, and manufactured gas.

Comparisons of Soviet-U. S. industrial output must also take into account the fact that various branches and types of production that are classified under the heading of industry according to the All-Union "Branches of the National Economy" Classifier (OKONKh) used in Soviet statistics belong to other branches of the economy according to the classification used in U. S. statistics. Thus, according to the classification used in U. S. statistics, the catching and initial processing of fish, the cleaning of cotton and other types of vegetable fibers, logging by enterprises that lack wood processing facilities, various kinds of repair work (in part, the repair of equipment, motor vehicles, motorcycles, appliances, etc., as well as the repair of apparel), and film-printing are not included under the heading of industrial output. On the other hand, certain types of activity, which U. S. statistics classify under the heading of industry, are classified as nonindustrial branches of the national economy by the OKONKh. For example, deep exploratory drilling and other work associated with the construction of oil and gas exploratory wells financed by capital investments are classified under the collective heading "Geology and Mineral Prospecting" while the activities of the editorial staffs of newspapers, journals, etc., are classified as "Miscellaneous Types of Activity in the Sphere of Material Production."

In all of the enumerated cases, in the comparison of Soviet-U. S. data, Soviet statisticians are usually guided by the OKONKh and make the appropriate regroupings and recalculations for the USA. Only when it was impossible to make the given regroupings on the basis of statistical materials published in the USA were the given adjustments made in data usually published in the USSR in the interest of attaining comparability.

According to the classification used in U. S. statistics, the volume of industrial production includes a relatively larger percentage of all research and development (R&D) work associated with industry and the industrial work force includes a relatively larger percentage of R&D personnel than the classification used in Soviet statistics.*

---

*The majority of all R&D work financed by U. S. industrial firms and R&D work contracted to them by government (for the most part, military) organizations financed by the federal budget is performed by enterprises belonging to these firms; they account for approximately 55 percent of total U. S. spending on R&D. Enterprises belonging to private industrial R&D firms employ approximately 900,000 persons. Of this number, over 300,000 are scientists and engineers (of which, approximately 75 percent are engineers).

These differences must also be borne in mind in comparisons of national income and the distribution of the work force among various branches of the Soviet and U. S. economy.

When comparing the volume of USSR-U. S. industrial output on the basis of the value of gross output, it must be remembered that the organization of production and the level of specialization in individual branches of industry in the two countries are not the same and hence there are differences in the scale of doubled counting. This circumstance is significant in the determination of the technological boundaries of various branches of industry and especially of the machine building branches of the USSR and the USA.

Differences in the scale of double counting are to a considerable degree eliminated when the industrial output of the USSR and the USA is compared on the basis of net or "conditionally net"* output**.

When Soviet statisticians compare the levels of industrial production in the USSR and the USA, they naturally do not confine their comparison to overall volume of industrial output. Nonetheless, the elimination of the indicated differences in the classifications still does not make the data characterizing the structure of industry and the output of various branches of Soviet and U. S. industry comparable. Sophisticated research is constantly in progress in order to render them comparable.

In the process of comparing individual branches of industry in the USSR and the USA, it must be considered that the classification of various branches of Soviet industry, including the most important branches, also differs substantially from the classification used in U. S. statistics. Therefore, in the interest of comparability, various branches of industry are regrouped on the basis of the Soviet statistical classification.

Thus, U. S. censuses publish data on the metalworking industry and on individual groups of machine building but do not publish summary data on all machine building and on the metalworking industry as a whole. Each of these groups unites a number of branches of the machine building industry. For example, the "Transport Machine Building" group includes the automotive industry, the aircraft industry and spare parts production, shipbuilding and ship repair, locomotive and railroad car construction, the production of motorcycles, bicycles and spare parts, and the production of miscellaneous types of equipment for transport.

The classification of various branches which U. S. censuses include in "Transport Machine Building" and branches included by the U. S. statistical classification in other groups of machine building differs from the OKONKh used in Soviet statistics.

In order to secure the comparability of statistical indicators characterizing the volume and structure of machine building in the USSR and the U.S., indicators for various branches of machine building are calculated on the basis of data on individual machine building groups published in U. S. censuses and data on certain types of machine building output included in other branches in accordance with the OKONKh, and these data are used as the basis for calculating overall totals for the U. S. machine building and metalworking industry. A similar problem also arises in the process of comparing the output of ferrous metallurgy, chemical and other branches of industry.

---

*U. S. statistics do not consider the net product of industry (v+m), but rather "value added by manufacture" which includes the depreciation of fixed capital.

**Methodological questions that arise in the process of comparing indicators of the new product must be examined elsewhere.

Very complex problems must be resolved when output indicators of Soviet and U. S. industry computed in the currency of each country must be converted to the same currency -- rubles or dollars -- for the sake of comparability.

The methods used in making this conversion is usually based on the determination of comparable prices on analagous representative goods produced in analagous branches of Soviet and U. S. industry. But the conversion is complicated by the fact that such analagous representative goods are not so very numerous in statistical publications. Therefore, the prices on the given analagous goods are calculated on the basis of the technical parameters and specifications of the representative goods. Work to determine comparable prices on representative goods (in dollars for the USSR and in rubles for the USA) is carried out with the participation of specialists in the appropriate branch institutes and departments. Comparable prices in rubles and dollars are used as the basis for calculating (weighted) coefficients for converting indicators of individual branches of industry and on their basis, for all industry as a whole.

Studies by Soviet economists show that in 1950 the volume of Soviet industrial output was less than 30 percent of the U. S. level and that the corresponding figure was greater than 80 percent in 1979.

The great advantages of the socialist mode of production have been the decisive factor underlying the accomplishments of the Soviet economy in all stages of socialist construction. Unlike the cyclical character of development that is characteristic of the economy of capitalist countries (periods of relatively favorable business conditions give way to economic crises and recessions), stable growth rates are characteristic of the crisis-free development of the socialist economy of the USSR.

In all the years of peacetime socialist construction in the USSR, there has not been a single year in which the level of industrial production was not higher than that of the preceding year. During the postwar period alone (the period following World War II), the U. S. economy has seven times been racked by economic crises that have set the country years back from the attained level of production.

Decrease in the Overall Volume of U. S. Industrial Output During Periods of Economic Crisis (from the High Point at the Onset of the Crisis to the Low Point of the Crisis) (in %)

1948-1949	9.9
1953-1954	10.0
1957-1958	13.5
1960-1961	8.6
1969-1970	8.1
1973-1975	15.3
1981	8.4

Substantial difficulties also arise when individual types of products are compared in physical terms. In certain cases, quite complex conversions are made in the process of comparing these indicators. The least complex conversions are those that stem from the use of different units of measurement. The more complex conversions are those involving differences in the range of indicators to be compared.

These differences stem to a considerable degree from the specific features involved in the organization of bourgeois statistics. For example, comparisons of data on total steel production in the USSR and USA take into account the fact that as of 1934 U. S. current statistics have usually not included steel produced at specialized enterprises that produce castings but that do not produce steel ingots. In recent years, these specialized enterprises have produced approximately 2.5-3.0 million tons of steel (computed in terms of molten steel), including approximately 0.75 million tons of alloy steel (including low-alloy steel) and approximately 1-1.5 million tons of electric steel. Data on steel production are published by the American Iron Steel Institute which is an agency of the ferrous metals industry. Accordingly these data only characterize the output of enterprises monitored by this association.

Data for the USSR encompass all steel production in the country. Therefore, when comparing data on total steel production in the USSR and the USA, it is necessary to add to current U. S. statistical materials the data that are submitted by specialized enterprises. The methods that were developed in USSR statistics to calculate total steel production in the USA are also used by various specialized organizations.

In Soviet statistics, the volume of production of rolled ferrous metals includes finished rolled stock, forgings and pipe made from ingots, forged stock and round billets, and billets to be re-rolled elsewhere. U. S. statistics on the other hand count only round billets and forged stock. In order to make the data on the production of rolled ferrous metals comparable, data on forgings and castings from ingots are excluded from the overall volume of production of rolled metals in the USSR together with the production of blanks for re-rolling at other plants in the USA.

In comparing data on the production of rolled metals in the USSR and the USA, it is also necessary to consider the fact that as of 1969 U. S. statistics publish data on the volume of metal products shipped rather than on the volume of production of rolled metal. On the basis of previously published U. S. data, it can be concluded that the volume of shipped rolled metal included in the volume of shipped metal products is 3-5 million tons less than the volume of rolled metal produced a year.

In the cited examples, we have examined only some of the methodological questions that are directly related to statistical indicators of production volume. Difficulties also arise when we compare other indicators related to the given types of products. Thus, as a result of the specifics of the methodology used in current U. S. statistics to calculate the indicators, it is necessary to overcome substantial difficulties involved in comparing data on the distribution of the consumption of rolled metals in the basic branches and on the production of other types of products -- textiles, footwear, etc.

It is a relatively less difficult problem to compare USSR-U. S. agricultural output. The number of agricultural products is far smaller than in industry and 20-25 types of agricultural production account for more than 80 percent of all agricultural production. But differences in classification must also be taken into account in comparing the agricultural output of the two countries. In order to make the data on the volume of Soviet-U. S. agricultural production comparable, all types of agricultural production are calculated in physical terms in comparable prices (in rubles and dollars). Since agricultural production is in large measure dependent on the weather and since there may be very large differences in the weather in various countries within the same year, the indicators are as a rule compared for a 5-year rather than a 1-year period.

In the process of comparing the levels of labor productivity in industry and agriculture in the USSR and the USA, both the output volume and the size of the work force were computed.

In addition to the previously mentioned differences in the classification of branches of industry, differences in the methodology used to calculate work force (industrial production personnel) were also taken into account in the calculation of relative labor productivity in Soviet and U. S. industry.

As is known, in the USSR the total industrial work force includes not only persons actually on the job but also persons who are absent from their job in connection with state and social obligations, with upgrading their skill levels outside of educational institutions, with special leave granted for taking examinations, etc. Therefore, in calculating labor productivity in Soviet and U. S. industry, the appropriate adjustment must be made in Soviet industry's work force.

Comparisons of labor productivity in Soviet-U. S. agriculture must take into account the fact that U. S. statistics do not include as part of the agricultural work force a considerable percentage of the working members of farm families (in particular, female members) or various categories of hired workers, especially Mexicans and certain other foreign workers who cross the American border illegally, some seasonal workers, and teenagers. Data on the number of farm family members employed in the U. S. agricultural work force usually include a note that the data do not include persons who worked less than 15 hours without pay in a given week. In reality, a considerable number of farm family members working on U. S. farms are not included in the count. American demographers pointed to this fact in the prewar years. Thus, after comparing the data of the two last prewar U. S. population censuses, American demographers concluded that the number of farm family members working in agriculture but not counted as working in the census frequently exceeded the number of working farm family members counted in the official census.

Another category of persons almost virtually excluded from the total agricultural work force are foreign workers, primarily Mexicans, who have entered the USA illegally. Precise data on their total number are not published in U. S. statistical materials. To be sure, the American press has cited various estimates by authoritative organizations. In 1977, for example, the American press reported that between 6 and 12 million such foreign workers were working in the USA. It has also been repeatedly reported that their plight is most difficult compared with that of foreign workers in other categories. However, as the American press reported, the hundreds of thousands of "illegal" foreign workers that work on U. S. farms are subjected to the severest exploitation.

In the mid-1970's, an American research named Taylor published a book[*] on the plight of U. S. farm workers which he compiled on the basis of data contained in official publications and in monographs by prominent authors. He reached the conclusion that approximately 800,000 teenagers and children whose parents migrate from place to place from one year to the next in search of earnings work on farms in New York, California, Texas, Ohio and certain other states to mention but a few.

Both the owners of large farms and official government agencies, including U. S. official statistical agencies, prefer not to report any kind of data on the actual number of workers in this category who are subject to especially severe exploitation.

All this is taken into account in the calculation of the labor productivity in U. S. agriculture. On the basis of various statistical materials sporadically published in studies by some U. S. economists, Soviet statisticians and economists concluded that in 1978 the actual number employed in U. S. agriculture was at least 5.6 million persons compared with the 3.9 million claimed in official U. S. statistics.

The enumerated categories of the work force which are not taken into account in the total work force not only in agriculture but also in other branches of the U. S. economy are also considered in comparisons of the total work force and total labor resources of the USSR and the USA.

The task of Soviet statistics is not only to obtain data that are comparable for the USSR and other countries but also to study factors responsible for a given correlation of indicators of labor productivity, work force, output-capital ratio, etc. For example, when we analyze the factors that influence the overall level of labor productivity in Soviet and U. S. industry, we must not forget that the USSR exports a significant quantity of oil and various extremely important types of fuel, industrial raw materials and supplies primarily to CEMA member nations in order to strengthen their economic potential. U. S. industry, to the contrary, uses a significant quantity of oil imported from other countries (in recent years, approximately one-half of its total consumption), a large quantity of other most important, very labor-intensive types of raw materials, e. g., iron and manganese ore, nonferrous ores and concentrates, and a significant quantity of steel products in all the recent years.

The cost of imported fuel, industrial raw materials and semimanufactured goods used by U. S. industry is reflected in the total cost of incustrial output. Nonetheless, the number employed in the extraction or production of these imported products is included in the work force of the economy of the exporting countries and not in the work force of U. S. industry. This circumstance also has a significant impact on the U. S. output-capital ratio.

---

[*] "Sweat Shops in the Sun. Child Labor on the Farm."

The most complex methodological problems remain to be resolved in comparisons of national income indicators as a result of the different economic concepts upon which Soviet and bourgeois statistics are based.

Soviet statistics classify branches of the economy under the heading of the material production sphere or the nonproductive sphere depending on the character of the social division of labor and participation in the creation of the gross social product and national income. "Goods" and "services" are classified accordingly.

The gross social product in the USSR represents the value of material goods and is determined as the sum of the gross product of branches of material production: industry, construction, agriculture, forestry, freight transport, communications (serving enterprises in the production sphere), material-technical supply and sales, procurement of agricultural products, trade and public catering, and also miscellaneous types of activity in the material production sphere (collection and initial processing of scrap metal and waste; publication of newspapers, books, magazines; production of movie films, etc.).

The value of the gross social product is divided into the value (transferred value) of means of production consumed in the production process, which constitutes the fund for replacing material production expenditures, and national income used for consumption and accumulation.

Instead of the gross social product, the USA calculates the gross national product which includes national income, the depreciation of productive and nonproductive capital, indirect and certain other taxes.

In U. S. statistics (and the statistics of other bourgeois countries), national income is calculated as the sum of income formed in branches of both the sphere material production and the nonproductive sphere. Thus, U. S. national income includes incomes of government administrative institutions, the army, and the policy, which form from incomes derived from branches in the material production sphere. Thus, some incomes in the USA are counted twice: in branches of the material production sphere where these incomes form and in branches of the nonproductive sphere where they are used.

For the sake of comparability, U. S. national income is re-calculated on the basis of the methodology used in Soviet statistics, i. e., the sum of double counting in the service sphere is excluded from U. S. national income whereupon national income in the USSR and USA is evaluated in comparable prices -- in rubles and dollars. In recent years, double counting of incomes in the service sphere has comprised roughly 25-30 percent of the officially published total U. S. national income.

When comparing the Soviet gross social product with the U. S. gross national product on the basis of roughly comparable methodology, the cost of nonproductive services is excluded from U. S. data while the cost of expended raw materials, supplies and fuel is excluded from Soviet data. The resulting relationship will approximately coincide with the correlation of Soviet-U. S. national income resulting from the calculation based on methodology used in Soviet statistics.

In the present article, we have been able to examine very briefly the individual methodological problems that have to be resolved in the process of comparing some of the most important statistical indicators in the Soviet and U. S. economies.

The solution of each of the questions mentioned is a very complex methodological problem meriting detailed investigation.

In international comparisons today, basic attention should be devoted to the comparability of technical progress indicators, the entire system of indicators of the effectiveness of production, indicators reflecting change in the structure and direction of capital investments. More and more significance is acquired by statistical data characterizing change in the branch and intrabranch structures of industrial and agricultural production, the rate and scale of renovation of the product mix, the production of new types of equipment, new types of products in the electonics, chemical and petrochemical industry; the development of the automation of production; the system of indicators of energy-saving, of the lowering of material- and capital-intensiveness; the replacement of scarce materials by other, more plentiful materials; changes in the working of metals, especially steel; the lowering of the weight of manufactured equipment per unit of production capacity, etc.

Soviet statisticians are keenly interested in improving the methodology of international comparisons of statistical indicators and have been striving to make them still more precise.

COPYRIGHT: Izdatel'stvo "Finansy i statistika", 1981

9013
CSO: 1820/172

PLANNING AND PLAN IMPLEMENTATION

GOSPLAN OFFICIALS DISCUSS PLAN GROWTH RATES

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 4, Apr 81 p 40-48

/Article by Ye. Ivanov, deputy chief of a department of USSR Gosplan, and A. Balashova, chief of a subdepartment of USSR Gosplan: "The Rates and Proportions of the 11th Five-Year Plan"/

/Text/ At all the stages of the building of socialism the main economic and political problems facing the Soviet people have been solved first of all by means of the planned specification of the most important national economic proportions. The policy of increasing the well-being of the Soviet people on the basis of the dynamic and balanced development of social production and the increase of its efficiency, which was adopted at the 24th and 25th CPSU Congress and was continued by the 26th CPSU Congress, implied the consistent formation of national economic proportions which correspond to this policy. The new five-year plan, while embodying the continuity of the policy of the socio-economic development of the country and the strategic aims of the party for the 1980's, has its own peculiarities, which take into account the specific conditions of economic development during the next 5 years and are embodied first of all in the nature of the national economic proportions which ensue from the requirements of the main task.

The 26th CPSU Congress specified as the main task of the 11th Five-Year Plan the assurance of the further increase of the well-being of the Soviet people on the basis of the steady, progressive development of the national economy, the acceleration of scientific and technical progress and the changeover of the economy to the intensive path of development, the more efficient utilization of the production potential of the country, the utmost economy of all types of resources and the improvement of work quality. Thus, the increase of the well-being of the people appears as the highest goal of the economic strategy of the party, the steady, progressive growth of the national economy appears as an indispensable condition, while intensification and technical progress act as the means of achieving the outlined goal. The changes in the national economic proportions, which are envisaged during the new five-year plan, also conform to this.

The Proportions of Consumption

The change in the national economic proportions in favor of the production of consumer items is a specific trait of the 11th Five-Year Plan. The current five-year plan is the most important stage in the solution of the cardinal problem of building communism, which V. I. Lenin defined as the achievement of "the complete well-being and free comprehensive development of all the members of society."[1] The approach of its achievement during each given period depends on the scale of the production of consumer items and nonproduction construction. In a most general form the change in the structure of social production in favor of the production of consumer items is displayed through the distribution of the national income for consumption and accumulation.

A certain stability of this national economic proportion, which is a guarantee and result of the progressiveness of economic growth and the increase of the well-being of the people, has always been characteristic of the Soviet economy. The distribution of the national income for consumption and accumulation in a ratio of approximately 3 : 1, which was established back during the period of prewar industrialization, has changed very negligibly in the time that has passed. Thus, during the past 20 years the proportion of the consumption fund in the national income (in comparable prices of 1973) has increased from 73.2 percent in 1960 to 75.3 percent in 1980, that is, by 2 points. True, during some years and five-year plans there were slightly greater fluctuations, but they, as a rule, were dictated by the specific nature of the individual years (for example, the alternation of years of good and poor crops).

The planned increase of the proportion of the consumption fund in the national income by 2 points (that is, by the same amount as in the preceding 20 years) attests to the strength of the structural shifts during the new five-year plan, which are aimed at increasing the well-being of the people. Further, whereas during the 10th Five-Year Plan as a result of the change in the national income of the proportion of the consumption fund the increase of this fund was about 13.3 percent, during the 11th Five-Year Plan it will be 14.2 percent.

The correlation between the current consumption fund and the fund of unproductive accumulation holds a significant place among the proportions of consumption. It reflects the interrelationship of the growth rate of the level of current consumption by the population of material wealth with the rate of increase of the fixed capital of the nonproductive sectors of the national economy, which ensure the creation of the conditions for the comprehensive development of the individual and the way of life of the Soviet people. During the current five-year plan, with the further development of housing and municipal services, education, health care, culture and art, the increase of the level of consumption of material wealth is remaining as much as possible a primary task. At the same time the scale of nonproduction construction is continuing to remain large (the placement of housing into operation will come to 530-540 million m^2 of total space). Major tasks also face other sectors of the nonproduction sphere. In this connection an increase of the proportion of those employed in the nonproduction sphere (from 26 percent in 1980 to 27 percent in 1985) is being planned for the purpose of improving the quality of service of the population by all types of services of the nonproduction sphere.

At the 26th party congress General Secretary of the CPSU Central Committee L. I. Brezhnev said: "The specific concern about a specific person, his needs and demands is the alpha and omega of the party economic policy. I am recalling this in order to emphasize once again a simple, but very important idea: the production

---

1. V. I. Lenin, "Poln. sobr. soch." /Complete Works/, Vol 6, p 232.

of goods for the population and the development of services are a foremost party matter."[2] The planned changes of the most important national economic proportions, the elaboration and implementation of major comprehensive goals programs: the food program, the program of the development of the production of consumer goods and services, the special program on the development of the production of new consumer goods, conform to the solution of this problem.

The goal program approach to the planned realization of the problem of consumption will make it possible to ensure the necessary proportions between the sectors which directly produce consumer items, the sectors which provide them with raw materials and equipment and the entire infrastructure, which coordinates the diverse and complicated interrelations between these sectors (procurement, storage, transportation, trade and so on).

The leading growth rate in industry of the production of consumer items (group B) is a peculiarity of the current five-year plan.

Soviet planning has always attached great importance to the establishment of the proper correlations between the production volumes and growth rates of groups A and B of industry as the most important component of the proportion between the former and the latter subdivisions of social production. This correlation should be such that the output of group A with its more efficient use would completely ensure the production of the output of group B in a volume which is sufficient to solve the tasks set by the party and the government for this period in the area of the increase of the standard of living of the people, and the necessary rate of expanded reproduction in subsequent periods. The upsetting of the proportion between these groups may also have the result that there will not be enough consumer items on sale to back the income of all the workers of social production.

A lead of the rate of development of the industry of the production of means of production has been characteristic of the Soviet economy during practically all the five-year plans (except the first postwar five-year plan).

For the 11th Five-Year Plan it is planned to ensure an increase of production of group B of industry by 27-29 percent, or 4.9-5.2 percent on the average per year, as against 26-28 percent, or 4.7-5.1 percent on the average per year, for group A.

A more rapid increase of the production of cultural, personal and household goods as compared with all consumer items is anticipated during the 11th Five-Year Plan. It is planned to increase their production considerably more rapidly than the output of industry as a whole and, what is especially important, more rapidly than the output of the sectors of heavy industry, in which they are produced. Let us cite corresponding data /see the following page/.

On the whole, it is envisaged to increase the output of cultural, personal and household goods by not less than 1.4-fold.

---

[2] PRAVDA, 24 February 1981.

Growth rate of sectors of heavy industry:	Growth rate of the production of cultural, personal and household goods, which are produced in the corresponding sectors of heavy industry:
machine building and metalworking--not less than 1.4-fold	in all by 1.3- to 1.9-fold, including: the radio industry--1.7- to 1.9-fold the communications equipment industry--1.5- to 1.8-fold the electronics industry--1.8- to 1.9-fold the aviation, automotive and electrical equipment industry and machine building for light and food industry--1.4- to 1.5-fold instrument making--1.3- to 1.4-fold
chemical and petrochemical industry--130-133 percent	1.4- to 1.6-fold
ferrous metallurgy--112-115 percent	1.4- to 1.5-fold
construction materials, structural components and parts industry--117-119 percent	1.3- to 1.4-fold
timber, pulp and paper and wood processing industry--117-119 percent	1.2- to 1.3-fold

Thus, the structure of the national income and industrial output, especially the output of the sectors of heavy industry, during the current five-year plan is oriented toward the preferential production of consumer items. A simultaneous change of the envisaged proportions in this direction has not been made in our economy. This makes special demands on the careful examination of the problems of accumulation and consumption and their influence on the nature and the rate of occurrence of socialist expanded reproduction. The point is that the contradiction between accumulation and consumption, which really exists under socialism, although not assuming an antagonistic nature, nevertheless affects the formation of the proportions in the production of means of production and consumer items and the rate of socialist expanded reproduction.

The change in the above-examined proportions ensures the realization of the task set at the 26th CPSU Congress of increasing the well-being of the Soviet people. But in the congress decisions a quite specific condition was set, namely the steady, progressive development of the national economy. The task of the dynamic development of the USSR economy is set for the 1980's as a whole. Thus, the leading growth of the production of consumer items should be combined with the dynamism of the development of the economy not only during the new five-year plan, but also during subsequent periods.

The Proportions of Dynamism

The growth rate of the USSR national economy with respect to practically all the volume indicators for long periods has been high enough for the normal functioning of the process of socialist expanded reproduction. True, a tendency for it to decrease has been observed, which has resulted from the effect of a number of objective factors, first of all the increase of the influence on the growth rate of the economy as a whole of agriculture, the development of which depends substantially on natural conditions. Indeed, whereas during the first postwar five-year plans, when the industrial foundations of the Soviet economy were laid, the rate of economic growth in practice depended on the rate of development of heavy industry, since the 1950's, that is, after the restoration of the economy, which had been ravaged by the war the group of sectors producing consumer items from agricultural raw materials has influenced economic growth to a greater and greater extent. And this influence increased from five-year plan to five-year plan, in spite of the continuing lead of the growth rate of heavy industry.

In recent times the tendency for the growth rate of the national income and industry to converge with the growth rate of agriculture has been appearing quite distinctly. Thus, whereas in 1951-1965 the difference between the average annual growth rates of industry and agriculture was 6.5 points, in 1966-1980 it was 4.7 points. Such a change reflects the increasing dependence of the rate of economic growth on the state of agriculture. Meanwhile precisely during the past decade, in spite of the enormous amount of resources allocated for the development of this sector, it has experienced the strong influence of adverse weather conditions for a number of years. Whereas, for example, during the period of 1951-1965 the volume of agricultural production was absolutely less than the preceding year in only 2 years (1951 and 1963), in 1966-1980 it was absolutely less in 6 years (1969, 1972, 1974, 1975, 1979 and 1980). The influence of agriculture on the rate of economic growth will, apparently, increase.

The accelerated development of the fuel sectors of industry, which in the end was not only objectively necessary, but also efficient, also influenced the decrease of the rate of economic growth, especially in the past 15 years. But under the conditions of the rearrangement of the proportions in favor of the fuel sectors this rate also cannot be high, especially considering the geographic conditions of fuel production in the new petroleum- and gas-bearing regions.

The dependence of the rate of economic growth on the proportion in all social production of the extractive and, in particular, the fuel sectors is manifested through their capital-output ratio and capital intensiveness. It is well known that the capital intensiveness in the fuel and power sectors is three- to fourfold greater than on the average for all other sectors of industry. Meanwhile in recent years the capital investments have been increased at a leading rate precisely in these sectors. Their proportion in the total amount of capital investments in industry increased from 32.3 percent in 1971-1975 to 38.5 percent in 1976-1980.

Whereas during the 10th Five-Year Plan the proportion of the fuel and power sectors in the capital investments for industry was maintained at the 1971-1975 level, the nearly 14 billion rubles, having been allocated for the development of other industrial sectors, would provide in 1980 an industrial output worth 15 billion more than in the fuel and power sectors. Then the average annual growth rate of industrial production in 1976-1980 might have been 5 percent as against the actual 4.5 percent. But objectively there was no such possibility. The accelerated development of the fuel sectors played a decisive role in the development of the Soviet economy during past periods; it will also play such a role in the future, regardless of the above-cited estimates. The latter merely show the strength of the influence of this factor on the growth rate.

The objective need for the preferential use in preceding periods of extensive factors of economic growth is the most general and fundamentally important factor of the forming growth rate of the national economy, which unites and includes many other factors. It is unquestionable that during these periods the increase of the use of intensive factors was also observed. At the same time our economy developed under the conditions of a considerable increase of manpower resources. This was responsible for the steady and quite rapid increase of new workplaces.

Our country had enormous reserves of still unexploitable minerals in undeveloped territories. It was necessary to involve these territories in the national economic complex, which required colossal resources and their investment precisely in capital-intensive sectors and in the pioneer development of new regions.

Under the conditions of primarily extensive development, which was caused by objective factors and the achieved scale of social production, the requirement of the acceleration and even the stabilization of the growth rate of the national economy would also have been economically unsound. The very type of expanded reproduction predetermined the change of this rate, which was also taken into account by the state plans.

At the same time the objectivity of the fluctuation of the rate of economic growth in the past by no means implies a continuation of this trend. The long-term nature of the economic policy, which is aimed at the gradual increase of the standard of living of the people, not only requires a change of the proportions in favor of the production of consumer items, but also sets quite rigid limits in the area of the rate of economic growth.

Therefore the radical change of the trends which have formed in the area of economic growth is becoming one of the most important problems of the new five-year plan. The very formulation of the main task of the 11th Five-Year Plan reflects the need for the steady, progressive development of the national economy. In conformity with this the acceleration of the growth rate of all the main sectors of physical production and in practice the stabilization of the growth rate of the national income as compared with the preceding period are planned for 1981-1985 (percent):

	1966-1970	1971-1975	1976-1980	1981-1985
National income used for consumption and accumulation.	141	128	121	118-120
Industrial output	150	143	124	126-128
Gross output of agriculture in average annual terms	121	113	109	112-114
Freight turnover of rail transport.	128	130	106	114-115

The dynamism of the development of the economy is being ensured by the corresponding national economic proportions. It is first of all the continuation during the new five-year plan of the policy of the leading development of subdivision 1 of social production, that is, the production of means of production, in all physical production.

In conformity with the policy of increasing the well-being of the Soviet people this lead is being decreased from 1.20 during the past five-year to 1.17 during 1981-1985. However, as estimates show, such a level of the lead is sufficient for ensuring the dynamism of the economy during the coming period. At the same time the proportion of the production of tools of labor, that is, of precisely that portion of the national product, which ensures to the greatest extent the dynamism of the economy, will increase in the output of subdivision I. The growth rate of the tools of labor will be approximately 16 percent higher than the growth rate of the production of all means of production. The leading growth of machine building and metalworking (by not less than 1.4-fold), the chemical and petrochemical industry (by 30-33 percent) and the retooling of other basic sectors of industry--power engineering, metallurgy, as well as transport and construction--are also called for. The sectors ensuring progressive shifts in the national economy and stable and balanced expanded reproduction will thereby be developed at a leading rate.

The change of the structure of capital investments in favor of the sphere of physical production will be of great importance for ensuring long-term dynamism. With an increase of the capital investments in the national economy during the 11th Five-Year Plan by 12-15 percent their increase in the sphere of physical production will be slightly more than 20 percent. This means the creation of a firm basis in the form of capacities newly placed into operation and of construction starts for ensuring the dynamism of the economy during subsequent periods.

Thus, national economic proportions, which ensure, on the one hand, the leading increase of consumer items and, on the other, the long-term dynamism of the development of the national economy, have to be formed during the current five-year plan. In essence the task of the planned surmounting of the contradiction between consumption and accumulation is being set. The means of solving it--the intensification of social production--was elaborated at the 26th CPSU Congress. In turn, the changeover to the intensive path of development is also characterized by proportions which are specific to it.

The Proportions of Intensification

Stepped-up assignments on all the indicators which characterize the intensification of social production are contained in the Main Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990. An increase of labor productivity in all the sectors of the national economy, a greater reduction than in past years of the rates of consumption of material resources and the reduction of the specific capital investments per unit of capacity being placed into operation are called for.

For the purpose of accomplishing these assignments it is planned to tighten up the policy of economy in all the sectors of the national economy and to ensure the further acceleration of scientific and technical progress. The intensification of the national economy regardless of the specific factors of its achievement at the works is being manifested and realized first of all through the planned establishment of the specific proportions which are characteristic of this type of socialist expanded reproduction.

The projections for the 11th Five-Year Plan contain many specific proportions of intensification. Among them are the intrasectorial and intraworks proportions, which are directly determined by scientific and technical progress. The most important directions in their change are the improvement of the structure of fuel, energy and raw material resources, the increase of the proportion of items of the best quality, especially of efficient construction materials, advanced types of machines and equipment and new types of consumer items. The increase of the production of individual types of fuel and energy resources, which are also valuable raw materials for the chemical industry, is changing in the following manner: petroleum (including gas condensate) from 112.2 million tons in 1976-1980 to 17-42 million tons in 1981-1985, gas--respectively from 145.7 to 165-205 billion m^3 and coal--from 14.7 to 54-84 million tons.

Thus, in the increase of fuel and energy resources the proportion of gas and coal is increasing substantially and the proportion of petroleum is decreasing. The intensive nature of the changes of the structure of the fuel and power balance is being increased by the considerable increase in the total rise in the generation of electric power of its rise at nuclear electric and hydroelectric power stations.

Substantial changes are envisaged in the structure of construction materials, which is evident from the assignments on the increase of their production (percent):

	1976-1980	1981-1985
Rolled ferrous metals.	104	114-117
Synthetic resins and plastics.	128	165-172
Chemical fibers and filaments.	123	136
Cement	102	113-115
Wood-particle board.	123	1.5-fold
Wood-fiber board	119	125
Paper pulp	104	1.3- to 1.4-fold
Cardboard.	102	1.3- to 1.5-fold
Paper.	101	120-125

The considerable acceleration of the growth rate of the production of all construction materials first of all attracts attention. This guarantees the stability of the rate of development of the economy during the future period. At the same time the substantial and, as a rule, greater lead than during the Ninth Five-Year Plan of the growth rate of the most efficient types of construction materials--economical types of rolled ferrous metals, plastics and wood-particle board--is important from the standpoint of the proportions of intensification.

In machine building the proportions of intensification take the form of the leading growth of the production of units of a higher unit capacity, machines, equipment for metal-saving technology, highly productive special and standard-unit machine tools, advanced forge and press equipment, means of automation of control, systems of machines and equipment, which increase labor productivity.

The growth rate of labor productivity during the 11th Five-Year Plan will be considerably higher for all sectors of the national economy than during the 10th Five-Year Plan. The increase of labor productivity at the present stage is one of the leading sources of the intensive development of the economy. Not less than 85-90 percent of the increase of the national income, more than 90 percent of the increase of industrial production, including nearly the entire increase of production in petroleum refining, in the coal industry, nonferrous metallurgy, the fish industry will be obtained due to this, while the further absolute decrease of the number of employed people is planned in agriculture.

At the same time during the past decade, even with the increase of the importance of each percent of increase of labor productivity, the scale of the absolute economy of living labor has been decreasing. Thus, with an increase of the productivity of national labor during the Eighth Five-Year Plan by 39 percent, the absolute economy of living labor in 1970 as compared with 1965 was 33.6 million annual workers. During the Ninth Five-Year Plan the growth rate of labor productivity declined to 25 percent, while the absolute economy of living labor in 1975 as compared with 1970 was 20 million. During the 10th Five-Year Plan labor productivity increased by 17 percent, the economy of living labor in 1980 as compared with 1975 was about 17 million. During the 11th Five-Year Plan it is planned to increase the productivity of national labor by 17-20 percent, which will provide in 1985 as against 1980 an economy of living labor in the amount of 17-20 million.

At the same time considerable reserves still exist precisely in the area of the proportions of intensification. Their utilization is one of the primary tasks during the drafting and implementation of the 11th Five-Year Plan. It is a question first of all of the ratio of the growth rates of labor productivity and the capital-labor ratio--the dynamics of the indicator of the output-capital ratio.

Expanded reproduction, which predominated during the preceding periods, is characterized namely by an increase of the capital-output ratio, that is, by the more rapid increase of the capital-labor ratio as compared with labor productivity (increase in percent):

	1966-1970	1971-1975	1976-1980
Productivity of national labor.	39.00	24.00	17.00
Capital-labor ratio for the national economy.	40.50	42.00	37.00
Increase of labor productivity per percent increase of the capital-labor ratio during the five-year plan	0.96	0.57	0.46

The cited data attest to the predominance of a capital-intensive trend of expanded reproduction. This is connected with the fact that in the national economy the proportion of manual labor was still high and in a number of sectors (agriculture, construction, loading and unloading operations) the process of primary mechanization had not been completed. The following factors also have an influence on the predominance of a capital-intensive trend:

the inadequate proportion of the capital investments being allocated for the replacement of obsolete technology;

the objective need for the development of such capital-intensive sectors as agriculture and the sectors of the extractive industry;

the shifts in the distribution to productive force to the northern and eastern parts of the country;

the need to work less rich and harder to reach minerals;

the large expenditures on environmental protection.

The policy of the preferential use of intensive factors of economic growth to a considerable extent is offsetting the adverse influence of these things on the proportions in the growth of labor productivity and the capital-labor ratio and is making it possible to raise the problem of overcoming the decline of the output-capital ratio.

The acceleration of scientific and technical progress in all the spheres of the national economy and the transformation of the factors of intensification into the decisive source of economic growth are the main prerequisite of the accomplishment of the socio-economic tasks planned during the 11th Five-Year Plan and the period to 1990. The process of their realization in fact will mean a changeover to a new type of economic development, which is characterized by a relative economy of all types of resources. This will also require other approaches to the theory and methodology of measuring the efficiency of social production.

The correlation in the growth rates of the national income and capital investments is one of the most important proportions, which reflect the turn toward the use of intensive factors of economic growth. A more rapid increase of the capital investments as compared with the increase of the national income has been characteristic of the Soviet economy at all stages of socialist development, which also reflects to the greatest extent the extensive, capital-intensive type of expanded reproduction. During the 11th Five-Year Plan it is planned to change sharply this most important national economic proportion (percent):

	1966-1970	1971-1975	1976-1980	1981-1985
National income used for consumption and accumulation.	141	128	121	118-120
Capital investments for the national economy as a whole	143	142	129	112-115
Correlation in the growth rates of the national income and capital investments.	0.95	0.67	0.72	1.5-1.33

The change of the ratio between the national income and capital investments will require, as is stipulated by the Main Directions, the substantial rationalization of social production and the investment process. During the new five-year plan the capital investments will be allocated to a considerable extent for the retooling and renovation of the operating works, which provide the greatest impact and in the shortest time. According to the plan for 1981 it is already envisaged that of the 140 billion rubles in capital investments 22 billion rubles, or about 16 percent, will be allocated for the retooling and renovation of the operating works.

The formation of the national economic proportions is the central link in the assurance of the economic and social development of the country. The advantages of planned socialist management are displayed precisely in them.

COPYRIGHT: Izdatel'stvo "Ekonomika", "Planovoye khozyaystvo", 1981

7807
CSO: 1820/160

RESOURCE UTILIZATION AND SUPPLY

PLANNERS STRESS RESOURCE CONSERVATION

Novosibirsk EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO) in Russian No 4, Apr 81 pp 12-29

/Article by Candidate of Economic Sciences V. I. Pavlov, chief of a sector of the Scientific Research Institute of Planning and Norms attached to USSR Gosplan, and Candidate of Technical Sciences A. N. Spektor, senior research associate (Moscow): "Problems of the Efficient Consumption of Materials"/

/Text/ In many sectors of the national economy attention is focused on the economy of living labor, while far from all take into account the reserves of the saving and efficient use of the physical components of the productive forces--raw materials, materials, fuel, power, purchased semimanufactures and components.

The productivity of living labor annually increases on the average by 4-6 percent and more, while the annual economy of physical resources usually does not exceed 0.5-0.7 percent of the current material expenditures. Whereas the 10th Five-Year Plan called for an increase of labor productivity for the national economy by 25 percent (in industry by 31 percent, in the public sector of agriculture by 28 percent, in construction by more than 30 percent and in rail transport by 20 percent), it was planned to decrease the materials-output ratio of social production by only 1.8 percent and of industry by 2.4 percent. In 1976 the actual saving of raw materials, materials, fuel and other components of the working capital came to 3 billion rubles, which, however, does not exceed 0.65 percent of the level of the current material expenditures. At the same time the increase of labor productivity in industry and construction was 3.3 percent, while for the national economy as a whole a saving of the labor of approximately 4 million average annual workers was provided. In 1978 the reduction of the materials-output ratio of the national product was accompanied by a saving in the amount of about 3 billion rubles (0.6 percent of the level of the current material expenditures), while a saving of the annual working time of 3.7 million people was obtained by means of the increase of labor productivity in the national economy.

In industry in 1976-1977 with annual current material expenditures of 350 and 365 billion rubles a saving of material resources respectively of not more than 2.0 and 1.5 billion rubles was envisaged.

Of course, the saving of working time and, thereby, the increase of the productivity of national labor are a decisive factor of the development of socialist production. However, it would be incorrect to understand the economy of national labor only as a saving of living labor: modern industrial production makes possible and necessary the reduction of the specific expenditures of the labor which is embodied in the means of production. Within them raw materials and materials have a high proportion with respect to value and play a fundamental role in the process of production.

Reserves of Saving

The consumption of raw materials and materials by the sectors of the domestic economy is increasing rapidly. In 15 years, starting with 1960, the material expenditures (excluding amortization) in the prices in effect increased for the national economy from 149.9 to 450.4 billion rubles, including in industry from 108.2 to 339.8 billion rubles; in agriculture from 18.6 to 55.7 billion rubles; in construction from 16.9 to 46.7 billion rubles. Owing to the steady increase of social production it is possible to assert that the consumption of material resources in our country in the 1980's will be approximately twofold greater than during the preceding 15 years. Therefore, the reduction of the materials-output ratio is acquiring particular importance. The materials-output ratio serves as a generalizing value indicator and reflects the level of expenditures of the entire group of material and technical resources (raw materials, basic and auxiliary materials, fuel, thermal energy and electric power, purchased semimanufactures and components), which are used for the output of products or the performance of operations of a set quality. The materials-output ratio is regarded here as the ratio of the current material expenditures (excluding amortization) to the result--the volume of the output produced by the cost of these expenditures. The material and technical resources are completely consumed during production and completely transfer their value to the product.

The dynamics of the materials-output ratio of the gross production of the national economy and its main sectors in 1960-1978 is presented in the table.

Materials-Output Ratio of the Gross Production by Sectors of the USSR National Economy in the Prices Actually in Effect, rubles/thousands of rubles

Sectors	1960	1965	1970	1975	1976	1977	1978
National economy as a whole . . .	493.1	494.8	504.3	522.1	513.3	511.2	510.4
Industry.	572.5	585.6	599.5	608.6	603.6	605.1	604.0
Agriculture	379.6	359.6	363.2	453.0	454.7	448.8	451.0
Transportation and communications	253.8	174.9	155.6	136.2	137.3	146.0	160.2
Construction.	528.1	523.6	522.2	508.7	496.8	490.6	487.9
Trade, procurement, material and technical supply and others . . .	138.1	82.6	61.5	46.6	43.1	33.8	31.8

During 1961-1975 the national economic materials-output ratio in the prices actually in effect increased by 2.9 points, and the proportion of the current material expenditures in the gross national product in 1975 came to 52.2 percent. For industry as a whole, which in 1975 accounted for 75.5 percent of the current material expenditures of the national economy, the materials-output ratio during this period increased by 3.6 points, while the material expenditures were nearly 61 percent of the gross output.

A gradual decrease of the materials-output ratio of social production and industry (as compared with its highest level in the base year of 1975) was achieved during the years of the 10th Five-Year Plan. Owing to this in 1976-1979 a saving of raw materials, materials, fuel and other components of the working capital in the amount of nearly 10 billion rubles was obtained. However, the level of the materials-output ratio of the gross national product and industrial production still remains so high that the efficiency of the use of raw materials and materials decisively influences the end results of economic operations.

Since the proportion of raw materials and materials in the expenditures on the output of products substantially exceeds the proportion of the expenditures on wages and social insurance, the absolute amount of the saving in many instances is comparable to the impact from the increase of labor productivity. Moreover, a saving of material resources of 5 billion rubles ensures a decrease of the capital outlays in the raw material and extractive sectors by 30 billion rubles. In 1978 the material expenditures were fivefold greater per ruble of gross output of industry than the expenditures on wages and social insurance. In the structure of the cost of construction and installation operations material expenditures made up 53.8 percent and the expenditures for the item "the basic wages of workers" made up only 14.1 percent.

The reserves of the economy of material and technical resources are still not being utilized fully enough due to the comparatively slow dissemination of the achievements of scientific and technical progress, the substantial losses of resources and the unintegrated approach to the planning and accounting of the saving of the objects of labor. The constantly felt shortage, for example, of rolled ferrous metals and the great amounts of scrap of metal products (in 1977 the scrap of ferrous metals came to 17.6 million tons, of them 8.1 million tons were chips) to a considerable extent result from the inefficient structure of the blanks and the low proportion of low-waste and waste-free technology at machine building enterprises. Thus, in 1977 more than 24 percent of the forging stock was produced by hammer forging with large machining allowances. As a result, when machining such blanks 60-70 percent of the metal turned into chips. The proportion of the blanks obtained by hammer forging was for the USSR Ministry of the Electric Equipment Industry 64.5 percent, the USSR Ministry of the Machine Tool and Tool Building Industry--57.7 percent, the USSR Ministry of Heavy and Transport Machine Building--38.7 percent, the USSR Ministry of Machine Building for Light and Food Industry and Household Appliances--37 percent. The proportion of precision forging on the average for machine building in 1977 was equal to only 19 percent, although the utilization ratio of rolled metal in the case of precision forging due to the reduction of the scrap and the decrease of the machining allowances increases to 0.85. The proportion of precision castings does not exceed 25 percent of the casting in the country, while about 30 percent of all the construction materials of domestic machine building are worked by casting. Its proportion in agricultural machinery is equal to 50-60 percent, in motor vehicles--55 percent and in machine tools--80-90 percent.

Serious shortcomings remain in the use of fuel and energy resources, the annual demand for which in the country is estimated in an enormous amount--more than 2 billion tons of conventional fuel. About 3,000 enterprises and organizations allow the excessive consumption of fuel, more than 2,600 consume too much electric power.

From the point of view of the limitation and unrenewability of many resources their losses in the ground, which in the production of coal amount to up to 25 percent, metallic ores--5-20 percent, potash salts--up to 40-55 percent and petroleum--up to 70 percent, are excessively great. The irrecoverable losses of water in municipal services amount to 85 percent, in the irrigation of fields--70-80 percent and in industry--30 percent. Annually 3,000 tons of paper, which is sufficient for the publication of 100 million copies of newspapers, are lost in the country due solely to the damage of rolls of paper during transportation. It is also possible to cite similar examples with respect to paints and varnishes, mineral fertilizers, lumber, cement, coal and other resources.

The losses of agricultural products, on the quantity and quality of which not only the development of other sectors of the national economy, but first of all the meeting of the increasing demands of the population depend, are especially intolerable. At a meeting with the voters of the Bauman Electoral District of Moscow on 2 March 1979, in noting the decisive importance, given the present scale of the economy, of the efficient use of the results of social production, Comrade L. I. Brezhnev especially emphasized that "...the harvests are increasing, but the losses of potatoes, vegetables, fruits and even grain still remain considerable."[1] The inspection of the Timiryazevskiy Vegetable Base near Moscow showed that with the traditional technology of storing agricultural products 15.7 percent of the potatoes, 22.1 percent of the beets, 23.3 percent of the carrots, 36.9 percent of the cabbage and 11 percent of the apples are lost. According to estimates, the proportion of the effectively used potatoes dues to losses during harvesting, transportation and storage does not exceed 55-60 percent of all the tubers cultivated in the field. The losses directly affect the efficiency of the use of material resources in the national economy as a whole, since due to the increasing materials-output ratio of agricultural produce the proportion of the means of production of industrial origin (mixed fodders, mineral fertilizers, toxic chemicals, diesel fuel, electric power and so on) in the current material expenditures exceeds 60 percent and is revealing a steady tendency to increase.

What Is Checking the Movement for Economy?

Procedural and organizational work on the formation of a truly progressive standard base is being performed in the sectors of the national economy. At the same time the need has arisen for the organization of strict and effective monitoring of the consumption of material and technical resources, and not only those for which centralized assignments of the saving and the reduction of the rates of consumption are established.

At present, unfortunately, the number of obsolete rates of consumption is still large, which in a number of instances creates an artificial shortage of resources, promotes waste and gives rise to the possibility of the fictitious saving of physical assets. Thus, the checks made by the Main Administration of Interrepublic Deliveries of Coal showed that in 1977 23 of the 63 inspected enterprises of the USSR Ministry of the Timber and Wood Processing Industry, 18 of the 50 inspected enterprises of the Ministry of the Machine Tool and Tool Building Industry, 24 of the 41 inspected enterprises of the Ministry of the Pulp and Paper Industry, 60 of the 121 inspected enterprises of the Ministry of the Meat and Dairy Industry and 22 of the 47 inspected electric power stations of the USSR Ministry of Power and Electrification were guided by excessive rates of the consumption of fuel and thermal energy. In 1978 10 of the 15 checked enterprises of the USSR Ministry of Ferrous Metallurgy, 33 of the 73 checked enterprises of the USSR Ministry of Nonferrous Metallurgy and 56 of the 117 checked enterprises of the USSR Ministry of Light Industry were guided by such rates. For many enterprises of construction and road machine building (the Khar'kov Krasnyy Oktyabr' Plant, the Kuybyshev Strommashina Plant, the Kryukovo Ventilator Plant and others) the ministry set for a number of items rates of consumption of rolled metal products which are higher than the actual level achieved in the past.

---

[1] PRAVDA, 3 March 1979.

The imperfection of rate setting is promoting the allocation to enterprises of resources in considerably greater amounts than is needed in fact for the fulfillment of the plan, is thereby giving rise to mismanagement and waste and is prompting the violation of the law, the uncontrolled sale or barter of resources which are strictly allocated centrally. In 1 year 27 enterprises of the Ministry of Heavy and Transport Machine Building alone sold or bartered 4,000 tons of rolled metal products, 8 enterprises of the Ministry of Power Machine Building--1,500 tons. The organizations of USSR Gossnab have established that in addition to metal the enterprises are independently selling in greater and greater amounts construction materials, timber and lumber, chemical products, machines and equipment; the barter of resources is carried out on an extensive scale.

The work on saving material and technical resources has not yet acquired an all-embracing and comprehensive nature. USSR Gosplan centrally establishes the assignments for ministries and departments on the average decrease of the rates of consumption of only the 39 most important types of material resources. In many sectors in total they do not exceed in value 15-25 percent of the total amount of the current material expenditures which are liable to reduction. Moreover, these assignments take incompletely into account the specific nature of the individual sectors, in particular, they do not cover many types of material resources which take up a large proportion in the structure of the material expenditures. The ministries, associations and enterprises, in turn, are focusing attention on the economy of only those material resources, for which assignments on the average decrease of the rates of consumption are stipulated. Moreover, the existing practice of plan assignments on the economy of a limited group of material resources (and only in physical terms) frequently forces designers and production workers to agree to economically unjustified substitutions of materials in order to ensure the desired percentage of economy of some one resource. At many machine building enterprises the aspiration to fulfill the assignments on the economy of rolled ferrous metals leads to the unsound replacement of welded components by heavier and more expensive castings and of forged pieces made from rolled metal by forged pieces made from bars, which contain more metal. All this leads to an increase of the weight and the cost of products, gives rise in the end to a shortage of metal and creates a tight situation in billet making.

With the existing practice of rate setting the centralized assignments for ministries and departments on the average decrease of the rates of consumption cover primarily traditional materials. The planning work on the economy of advanced materials (for example, plastics and synthetic resins, numerous items for further conversion), as well as many types of components, which are the most expensive and scarce, is still being carried out poorly.

In turn the unintegrated approach to the planning of the consumption of materials, when many types of material and technical resources fall from the purview of planning organizations and managers, creates a favorable atmosphere for mismanagement and waste and deprives workers of clear-cut guidelines in the drive for the economical consumption of means of production.

All this is moderating the rate of economy of past labor, as a result of which the materials-output ratio of USSR social production is decreasing annualy by not less than 0.5-0.7 percent. Meanwhile the practical experience of planning the materials-output ratio in the CEMA countries shows its great success. Thus, in the GDR, where there is in effect the National Program of the Economy of Material Resources, which is based on the the planning of the materials-output ratio through centralized assignments to enterprises on the reduction of both this synthetic indicator and the individual rates of consumption of the main types of raw materials and materials for the output of the most important products, in the past 5 years they achieved an annual decrease of the materials-output ratio on the average by 2.8 percent. The 1976-1980 plan set the average annual rate of economy of material resources for the national economy of the GDR of 2.8-3 percent, Bulgaria--1.6 percent, in industry of Poland--1.8 percent and the CSSR--0.6-0.8 percent.[2]

The Program of the Economical Consumption of Materials

The work being conducted in the country on the more efficient use of the wealth of socialist society can and should be raised to a qualitatively new level. In the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" the drafting of programs on the economy of fuel and metal is stipulated among the priority tasks for the immediate future. The compilation of the programs presumes the complete coordination of the directions of scientific and technical progress, the versions of capital investments and the measures of an economic and organizational nature. This will create a reliable basis for the changeover to the planning of the materials-output ratio, first of all in industry. Some planning workers believe that the conversion to the use of the production cost which accumulates the expenditures on production as a centrally planned and fund-forming indicator will automatically solve all the problems connected with increasing the efficiency of the use of material and technical resources. However, it is hardly legitimate to compare the indicators of the production cost and the materials-output ratio with each other.

There is no doubt that the production cost, which takes into account the costs of both living and past labor, which is represented in amortization and the consumed raw materials and materials, should first of all be included in the centrally planned indicators. But at present, when in many sectors of industry no more than 5 percent of the enterprises are covered by assignments on the decrease of the production cost, the role of this indicator has been unjustly minimized. Therefore the influence of the decrease of the cost of industrial output on the increase of the profit is gradually diminishing. Whereas in 1961-1965 the proportion of the increase of the profit due to the decrease of the production cost was 51 percent, during the

---

[2] G. A. Khachiyev, "Rabota po ekonomii material'nykh resursov v ryade stran-chlenov SEV" /The Work on the Economy of Material Resources in a Number of CEMA Member Countries/, Moscow, TsNIITEIMS, 1978, pp 9-10.

Eighth Five-Year Plan it decreased to 47 percent, while during the Ninth Five-Year Plan it was only 39 percent. In 1971-1975 61 percent of the increase of the profit was obtained by means of the volume of sold output.

To increase the profit by means of the intensification of production it is necessary to seek the utmost reduction of the production cost, in which the material expenditures take up the lion's share for the majority of sectors of industry. Thus, in 1978 for industry as a whole the proportion of the expenditures of material and technical resources in the production cost was 73.3 percent, including 55.9 percent in electric power engineering, 52.9 percent in the fuel industry, 56.6 percent in the construction materials industry, 65.0 percent in machine building and metalworking, 74.5 percent in ferrous metallurgy, 73.3 percent in the chemical and petrochemical industry, 89.2 percent in light industry and 87.9 percent in the food industry. The planning of the production cost, which is now used in practice, with the breakdown of the resource expenditures into four consolidated components (raw materials and materials, auxiliary materials, fuel, power) does not make it possible to take into full account the influence of scientific and technical progress, structural shifts and the factors of the change of the prices of products and resources (with allowance made for their quality and the terms of delivery) on the volume and pattern of the consumption of material and technical resources. It is also difficult to judge how the outlined assignments on the economy of material resources (which are usually set in percent of the average decrease of the rates of consumption in physical terms) will affect the level of the production cost. Indeed, some ministries, in improving accounting and the calculation of the production cost, break down and distinguish, with allowance made for the specific nature of the sector, individual groups of material and technical resources, which increases the quality of the accounting of the consumption of resources. Thus, in connection with the high materials-output ratio of ferrous metals the Administration of Accounting and Records of the USSR Ministry of Ferrous Metallurgy introduced additional costing items: supplementary materials; auxiliary materials; process fuel; power expenditures; the wear of special-purpose tools and accessories; minor repair and maintenance of fixed capital; the intraplant transportation of raw materials, basic materials, semimanufactures and output; amortization of fixed capital.[3]

The accounting and classification of expenditures in social production need improvement. The paid services, which are rendered by outside enterprises and organizations and are connected with the operational activity of enterprises (associations), are also included, as a rule, in the material expenditures. The transportation costs, current repair, the partial processing of materials and parts, installation and adjustment work, the specialized service of enterprises and others are grouped with them. It would be more correct to assign the paid services not to material resources, but to financial resources. The expenditures of enterprises and associations on transportation should also be grouped with the financial resources, planning them by a separate line. This would enable planning and management organizations to monitor the transportation costs, which at present make up 10-15 percent of all the current material expenditures. Today the volume of inefficient shipments by rail transport alone is estimated to be on the order of

---

3. N. K. Marin, "Accounting and the Calculation of the Production Cost at Enterprises of Ferrous Metallurgy," BUKHGALTERSKIY UCHET, No 3, 1978, pp 17-25.

3-4 percent (which with the present scale of the freight turnover is equivalent to 100-133 billion ton-kilometers), and their elimination would make it possible to reduce the annual transportation costs by 400-500 million rubles.

For the more reliable accounting of the production cost during the planning period and the effective monitoring of the consumption of the entire group (or at least the bulk) of the material and technical resources being consumed a changeover should be made, it seems to us, from assignments on the economy of individual resources to the planning of the materials-output ratio. This presumes technically and economically sound rates of the consumption of material and technical resources in a list which covers the bulk of the output and consumed resources, the elaboration and regular updating of the price lists for materials. The need will arise for a technically sound system, which is backed by All-Union State Standards, of indicators which characterize the quality if only of the mass output (motor vehicles, tractors, excavators, cranes, railroad cars, refrigerators and so on). By establishing differentially for each sector the assignments on the economy (in physical terms) of those types of material and technical resources, which in total will constitute the bulk (by value) of the material expenditures on the output of products, it is possible, by using price handbooks for material and technical resources, which have been elaborated for the level of enterprises, associations and even ministries, to calculate quite accurately the change of the production cost, which is caused by this economy. The workers of planning and statistical organizations and the staff members of enterprises and associations also are of a similar opinion.

Thus, I. A. Kalinin, a member of the Collegium of USSR Gosplan, and other workers of USSR Gosplan believe that when drafting annual and five-year plans, in addition to the assignment on the reduction of the rates of consumption of finished rolled metal, pipe and hardware and of the production cost, an assignment on the reduction of the materials-output ratio (the metal content) should be established for ministries, departments and union republics.[4]

Chief of the USSR Central Statistical Administration L. M. Volodarskiy, while noting that statistics serves as one of the most important tools of state planned management of the national economy, considers it necessary when elaborating a system of indicators of economic efficiency to devote particular attention to the calculation of the materials-output ratio.[5] It is also possible to evaluate by this indicator the work of shops on the improvement of the use of raw materials and materials and to use it in intraplant cost accounting.

How Do You Control the Materials-Output Ratio?

A knowledge of the planned and actual pattern of consumption of materials, of the consumption of basic resources in both physical and value terms per unit of output

---

4. I. A. Kalinin, "Figures Are an Obstinate Thing," MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE, No 11, 1978, p 77; V. Zelenskiy et al., "The Most Important Directions of the Reduction of Losses of Metal," PLANOVOYE KHOZYAYSTVO, No 3, 1979, p 14.

5. L. M. Volodarskiy, "The Urgent Tasks of State Statistics," KOMMUNIST, No 17, 1977, p 98.

(by value and in physical terms) or per unit of its consumer impact will make it possible to consciously control the consumption of resources. The opportunity will arise to evaluate and stimulate the contribution of each worker or collective to the economy of material expenditures through personal or collective accounts.

Of course, the precise planning of the materials-output ratio according to a list of products and resources which is considerably more extensive than now will require much calculating work. This work, however, is quite practicable with the use of computer equipment. The experience of the Ural'sk Railroad Car Building Plant, at which cost accounting, which is based on a progressive standard basis and intraplant price handbooks for materials, tools and semimanufactures, covers 260 of the 270 production sections, can serve as an example. Each month the results of the competition are tallied with the aid of the information and data processing center for 2,340 combined accounts of economy with the issuing of tabulated forms, in which the consumption of materials, tools and electric power by the code number of each worker or brigade is shown in physical and value terms.[6]

The effectiveness of the price lists for material and technical resources, which not only improve accounting by means of the elimination of the disparity in the classification of materials, but also make it possible owing to the use of a single list of materials to estimate more soundly the demand for materials, is confirmed by the practical work experience of the Tbilisi Machine Tool Building Plant, the Kuybyshev Aircraft Plant, the Moscow Motor Vehicle Plant imeni I. A. Likhachev and other industrial enterprises. According to the letter of the USSR Ministry of Finance of 24 October 1977, "On Measures on the Improvement and Extensive Dissemination of the Standard Method of Accounting of the Expenditures on Production and the Calculation of the Production Cost," the elaboration of price lists for materials, components and servies of ancillary shops has become one of the mandatory requirements in the area of the improvement of planning. This requirement follows from the planning of the materials-output ratio, since it is necessary to take into account the consumption not only of raw materials and basic materials, but also of such components of the material expenditures as auxiliary materials, purchased semimanufactures and components, the saving of which, as practice shows, is possible both at the stage of designing and during the making of the product. For example, the organizations of USSR Gossnab upon careful study of the orders and the corresponding design documents for several types of products on an economically sound basis repeatedly reduced the orders for the scarcest components or replaced them with less expensive products. Thus, the Main Administration for the Supply and Sales of Cable Products saved 250,000 km of scarce cable products, by replacing at all television plants the PMVG electrical installation wire with less expensive and simpler NV-11 wire (without the loss of product quality). The possibilities of saving cable directly at the works are also great, since at a number of enterprises the scrap of this scarce product amounts to 20 percent. As a result of the analysis of the use of the 35 scarcest type sizes of reinforcement and fasteners Soyuzglavarmatura established that of the declared demand for 232,500 units of them the use was justified for only 53,800, while of the 54,900 units of the most expensive stainless steel reinforcement it was justified for only 20,000 units. Therefore the suggestions on the exclusion from the current material expenditures of the value of auxiliary materials, purchased parts and components when making estimates of the materials-output ratio at enterprises of machine building and several other processing sectors seem unsound both theoretically and practically.[7] In many instances they decisively influence the level of the material expenditures. Moreover, as the specialization and cooperation of production develop, the proportion of purchased semimanufactures and components in the structure of the expenditures on production increase. For example, in 1976 the proportion of purchased semimanufactures and components in the amount of direct material expenditures on the production of the gross output in the Ministry of Construction, Road and Municipal Machine Building was 70 percent, the Ministry of Tractor and Agricultural Machine Building--60 percent, the Ministry of the Automotive Industry--on the order of 57 percent, the Ministry of Heavy and Transport Machine Building and the Ministry of Machine Building for Light and Food Industry and Household Appliances--48 percent each, the Ministry of Instrument Making, Automation Equipment and Control Systems--46 percent, the Ministry of the Machine Tool and Tool Building Industry--41 percent and the Ministry of Power Machine Building--33 percent. The exclusion from the material expenditures of such a significant amount unquestionably would distort the real level of the materials-output ratio and might lead to incorrect conclusions about the efficiency of the use of material and technical resources.

---

[6] I. Krutyakov, "Cost Accounting and Competition," SOTSIALISTICHESKAYA INDUSTRIYA, 17 May 1979.

In spite of the experience of USSR Gossnab, among the workers of planning organizations the belief still exists that it is impossible to save components. It is difficult to agree with such an opinion: it is also possible to use this group of material and technical resources more efficiently. There are several ways to save. First of all, there is the design development of items for the technological feasibility of their production. Experience shows that by using various design diagrams for the same items and by varying the list of purchased components, it is possible to reduce the initial production cost on the average by 15-20 percent. With allowance made for the expenditures on the item "purchased semimanufactures and components" this will provide in machine building a saving of tens of billions of rubles. Another means is the selection of suppliers who produce the given type of product in large series and on a mass basis. The economy of components provides as a result a significantly larger impact than the saving of primary resources.

The planning of the materials-output ratio of the gross production of an enterprise (association, ministry) and its planning with a breakdown of the material expenditures into the main components (for example, in machine building with a breakdown of the components of the materials-output ratio into rolled ferrous and nonferrous metals, pipe, cast iron, cast steel and cast nonferrous metals, items for further conversion, plastic materials, varnishes and paints, the main types of purchased semimanufactures and components and other material resources) are necessary. This will determine more soundly the plan assignments on the reduction of the production cost with allowance made for the influence of scientific and technical progress, the change of the structure of production, the quality of the items and the consumed resources, as well as the influence of the price factor.

When changing over to the planning the the materials-output ratio USSR Gosplan with the participation of the ministries and departments has to draw up (with allowance made for the specific nature of the sectors and works) a scientifically sound list of the products and material and technical resources, which are presented in a broken down form in the planning estimates. Of course, the centralized assignments on the average reduction of the rates of consumption will also have to be established according to this expanded list. Such a list can be formed from the value indicators of the allocated types of items and resources, their proportion respectively in the gross product and the current material expenditures with allowance made for the national economic importance of the products and resources.

---

[7] Yu. Krotov, "The Materials-Output Ratio of Production and the Net Output," PLANOVOYE KHOZYAYSTVO, No 11, 1978, pp 70-79.

If the assignments on economy cover the entire set of raw materials and materials, the regular and thorough economic analysis of the consumption of resources in both physical and value terms and the consideration of the influence of scientific and technical progress, organizational and other factors on the level and structure of the material expenditures on the output of the main types of products will be required of ministries, associations and enterprises. Much will depend on the careful study and implementation of organizational and technical measures for ensuring the planned economy of material and technical resources. The unintegrated approach often leads to paradoxical phenomena, when enterprises, while saving the resources for which centralized assignments on economy have been set, consume other types of them wastefully. Thus, in machine building rolled ferrous metal worth 100-150 million rubles is saved annually, while varnishes and paints worth 300-400 million rubles are wasted due to the backward technology of painting finished items.

The analysis of the use of material resources in the sectors of the national economy thus attests to the need for a qualitatively new approach to the consumption of materials. The Main Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990 have in view to provide during the five-year plan a saving of fuel and energy resources, rolled ferrous metal and other most important types of raw materials and materials in amounts which are large even on the scale of the national economy of our country. The fulfillment of the plan will require a set of coordinated measures (technical, economic, legal, organizational and others), which are connected with the planning of the materials-output ratio. It is hardly correct to make the question of converting to the planning of the materials-output ratio dependent on the full readiness of the entire base of standards, the elaboration of a completed system of the evaluation of the activity of economic subdivisions, the improvement of pricing, planning and stimulation. The planning of the materials-output ratio by the very fact of its existence will expedite the development of a standard base and a system of stimuli for the efficient use of material and technical resources.

COPYRIGHT: Izdatel'stvo "Nauka", "Ekonomika i organizatsiya promyshlennogo proizvodstva", 1981

7807
CSO: 1820/161 END

END OF

FICHE

DATE FILMED

July 1, 1981